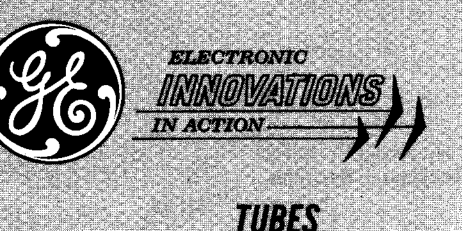


—PRODUCT INFORMATION—

6AG9

Compactron Triode-Pentode

The 6AG9 is a compactron containing a sharp-cutoff, high-transconductance, frame-grid pentode and a triode. The pentode is intended for video amplifier service and the triode for AGC amplifier service in color television receivers.

GENERAL

ELECTRICAL

Cathode - Coated Unipotential

Heater Characteristics and Ratings

Heater Voltage, AC or DC*	6.3±0.6	Volts
Heater Current‡	0.82	Amperes

Direct Interelectrode Capacitances§

Pentode Section

Grid-Number 1 to Plate: (Pg1 to Pp)	0.16	pf
Input: Pg1 to (h + Pk + Pg2 + Pg3 + i.s.)	17	pf
Output: Pp to (h + Pk + Pg2 Pg3 + i.s.)	6.5	pf

Triode Section

Grid to Plate: (Tg to Tp)	2.8	pf
Input: Tg to (h + Tk + i.s.)	3.6	pf
Output: Tp to (h + Tk + i.s.)	2.2	pf

MECHANICAL

Operating Position - Any
Envelope - T-9, Glass
Base - E12, Button 12-Pin
Outline Drawing - EIA 9-59

Maximum Diameter	1.188	Inches
Minimum Diameter	1.062	Inches
Maximum Over-all Length	2.625	Inches
Maximum Seated Height	2.250	Inches
Minimum Seated Height	2.000	Inches

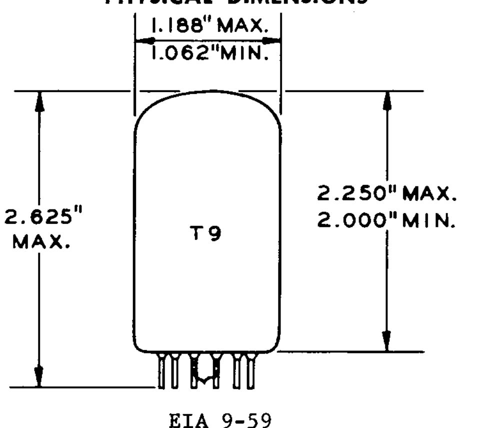
MAXIMUM RATINGS

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

PHYSICAL DIMENSIONS

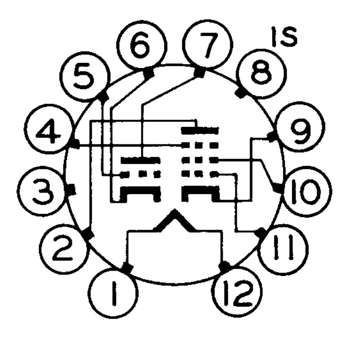


EIA 9-59

TERMINAL CONNECTIONS

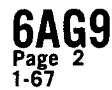
Pin 1 - Heater
Pin 2 - Pentode Plate
Pin 3 - No Connection
Pin 4 - Pentode Grid Number 3 (Suppressor)
Pin 5 - Triode Grid
Pin 6 - Triode Cathode
Pin 7 - Triode Plate
Pin 8 - Internal Shield
Pin 9 - Pentode Cathode
Pin 10 - Pentode Grid Number 2 (Screen)
Pin 11 - Pentode Grid Number 1
Pin 12 - Heater

BASING DIAGRAM



EIA 12HE





MAXIMUM RATINGS (Cont'd)

DESIGN-MAXIMUM VALUES

	Pentode Section	Triode Section	
Plate Voltage	330	330	Volts
Screen Voltage	200	---	Volts
Positive DC Grid-Number 1 Voltage	0	0	Volts
Plate Dissipation	10	1.1	Watts
Screen Dissipation	1.5	---	Watts
Heater-Cathode Voltage			
Heater Positive with Respect to Cathode			
DC Component	100	100	Volts
Total DC and Peak	200	200	Volts
Heater Negative with Respect to Cathode			
Total DC and Peak	200	200	Volts
Grid-Number 1 Circuit Resistance			
With Fixed Bias	0.1	0.5	Megohms
With Cathode Bias	0.25	1.0	Megohms

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

	Pentode Section		Triode Section	
Plate Voltage	55	250	150	Volts
Screen Voltage	125	150	---	Volts
Grid-Number 1 Voltage	0	---	---	Volts
Cathode-Bias Resistor	---	56	350	Ohms
Amplification Factor	---	---	39	
Plate Resistance, approximate	---	40000	8500	Ohms
Transconductance	---	30000	4600	Micromhos
Plate Current	56	28	6.2	Milliamperes
Screen Current	21	5.6	---	Milliamperes
Grid-Number 1 Voltage, approximate Ib = 20 Microamperes	---	---	-7	Volts
Grid-Number 1 Voltage, approximate Ib = 100 Microamperes	---	-5.4	---	Volts

NOTES

* The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

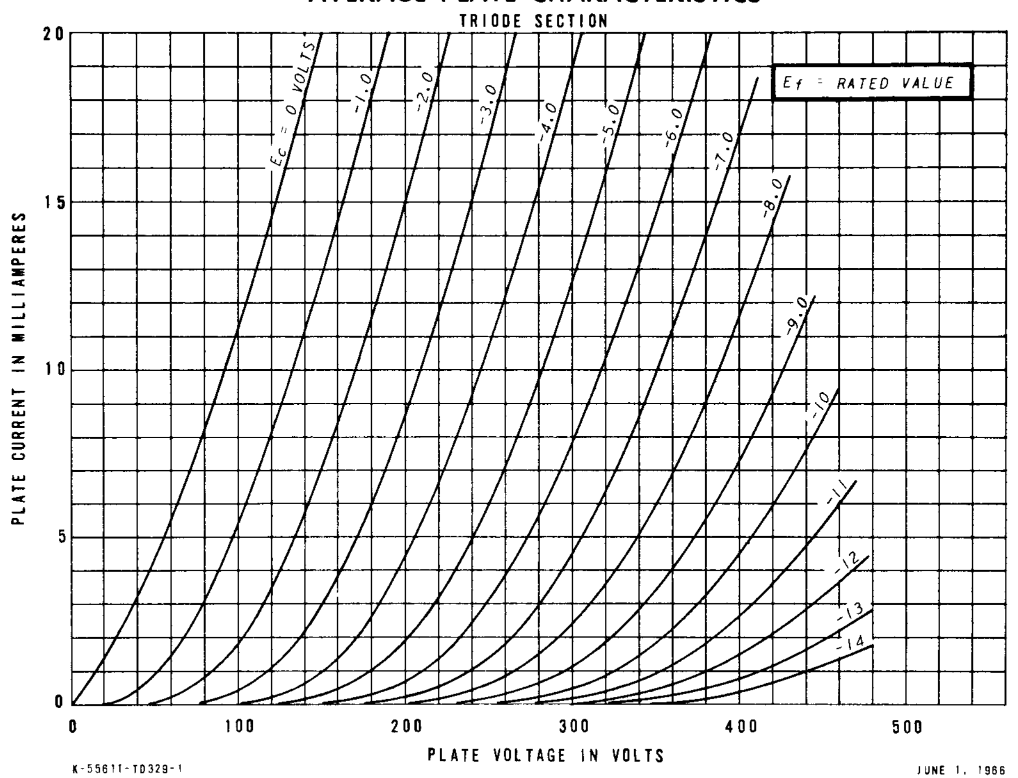
‡ Heater current of a bogey tube at Ef = 6.3 volts.

§ Without external shield.



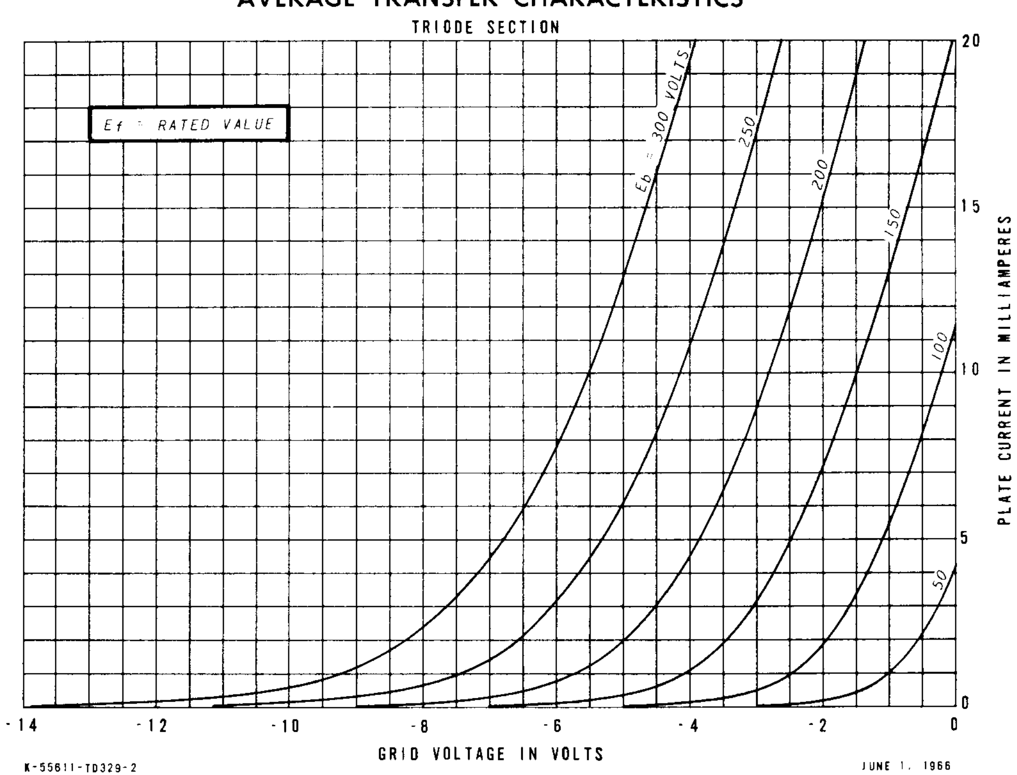
AVERAGE PLATE CHARACTERISTICS

TRIODE SECTION

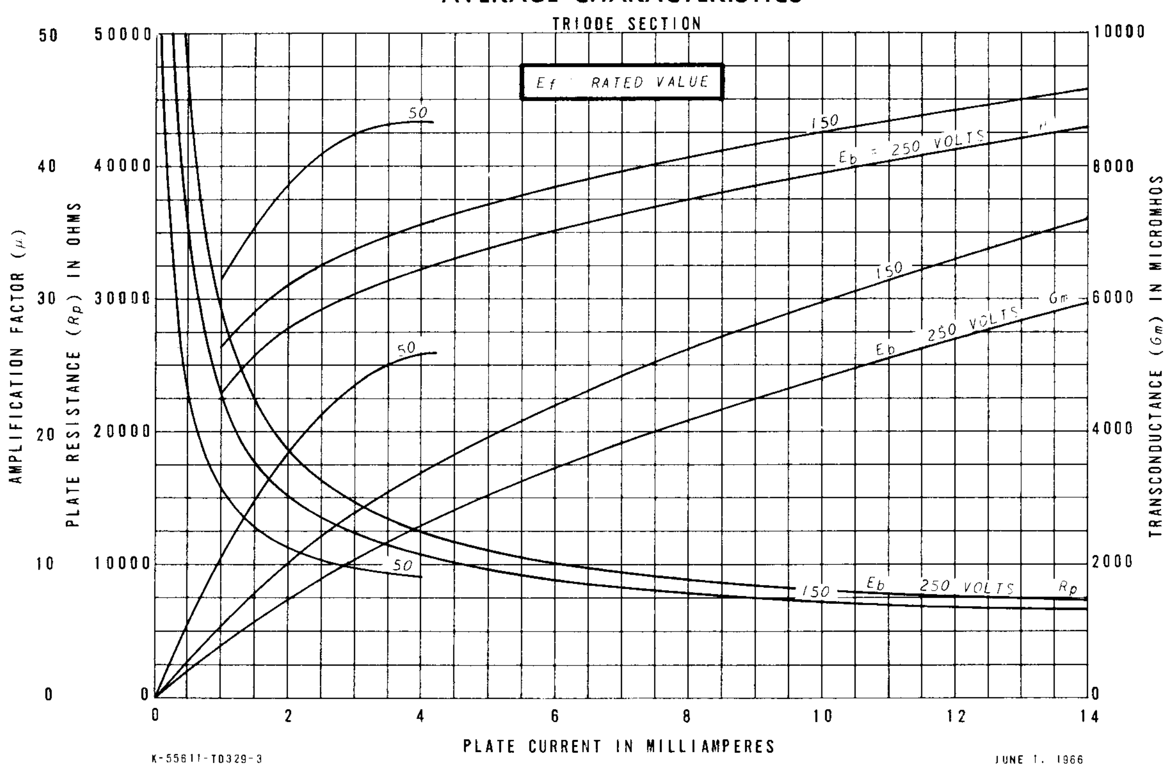


AVERAGE TRANSFER CHARACTERISTICS

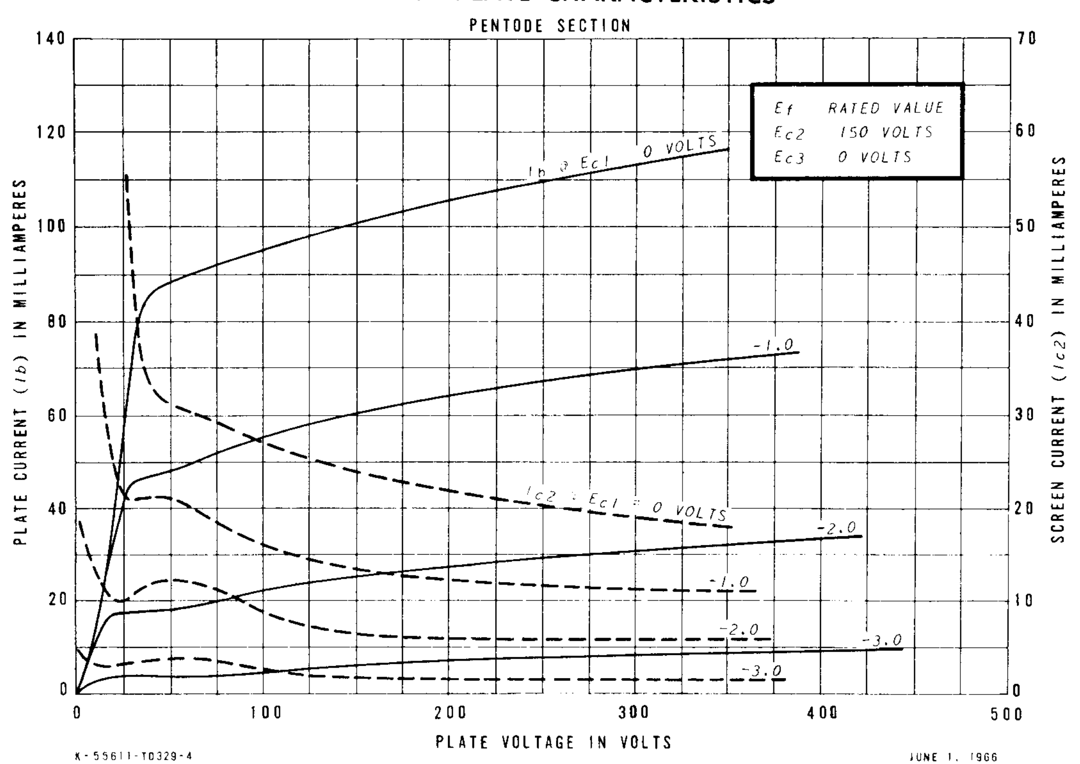
TRIODE SECTION



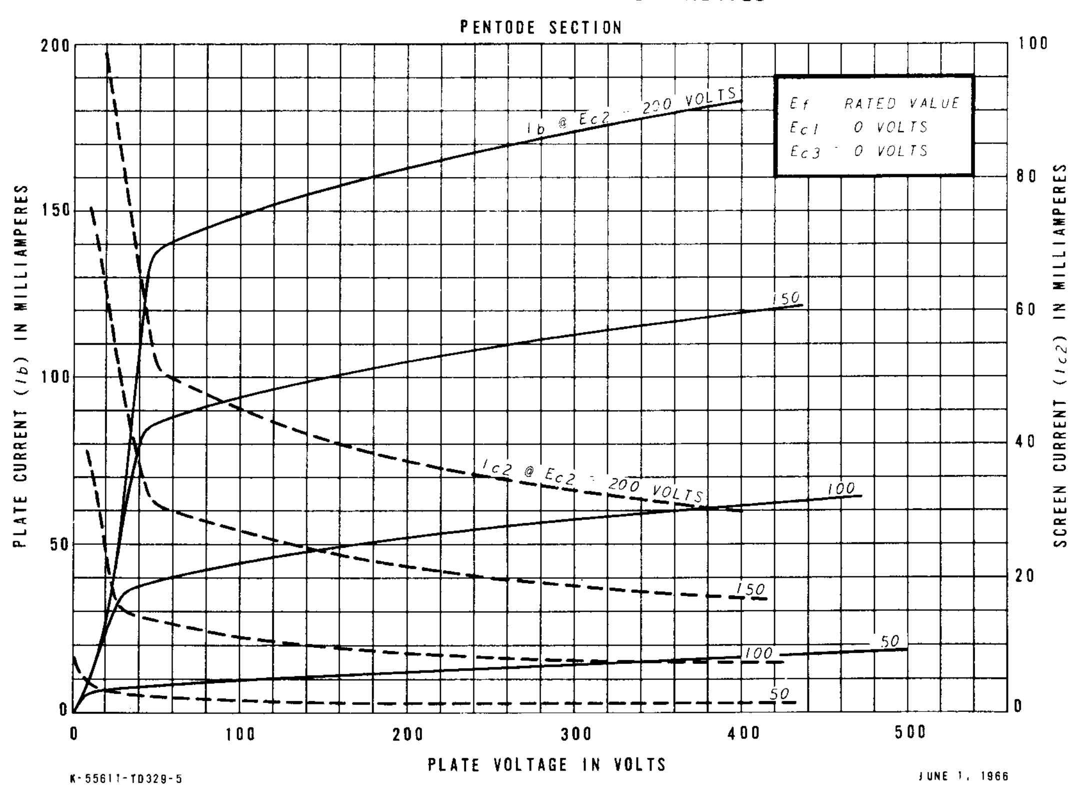
AVERAGE CHARACTERISTICS



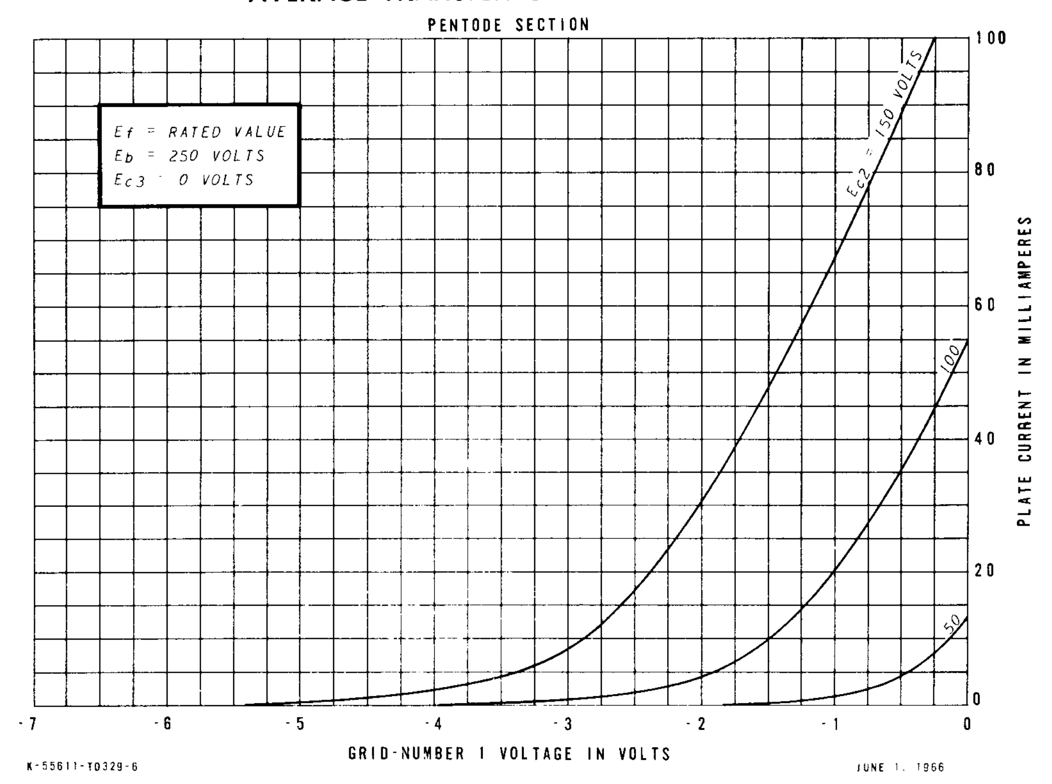
AVERAGE PLATE CHARACTERISTICS

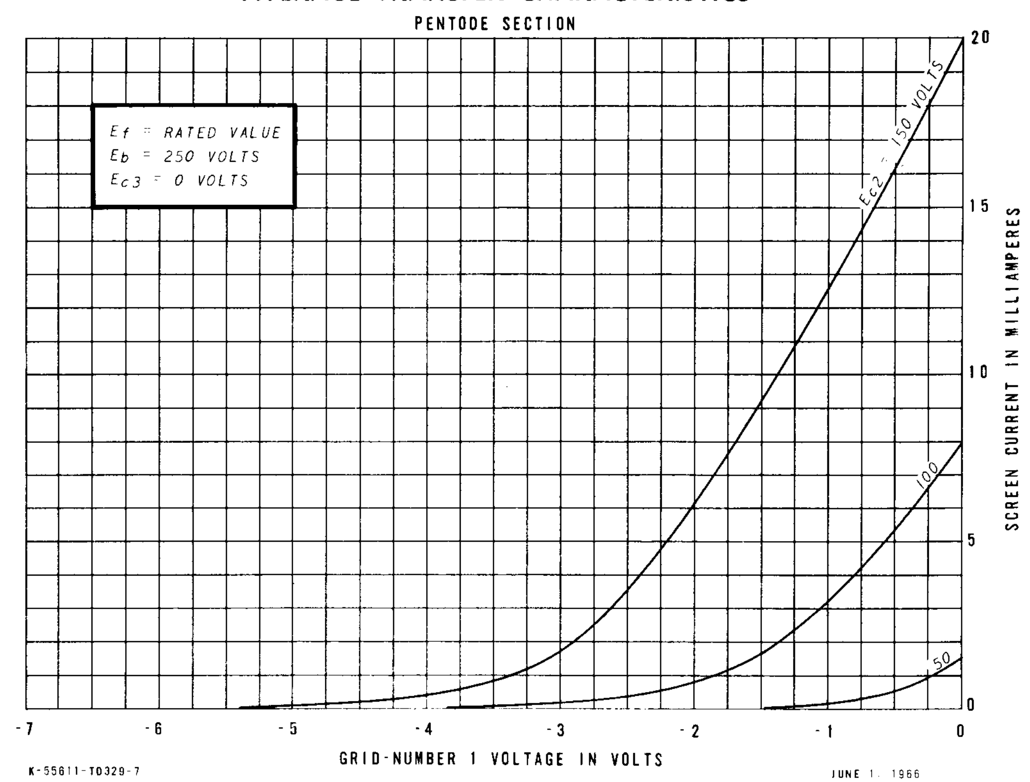


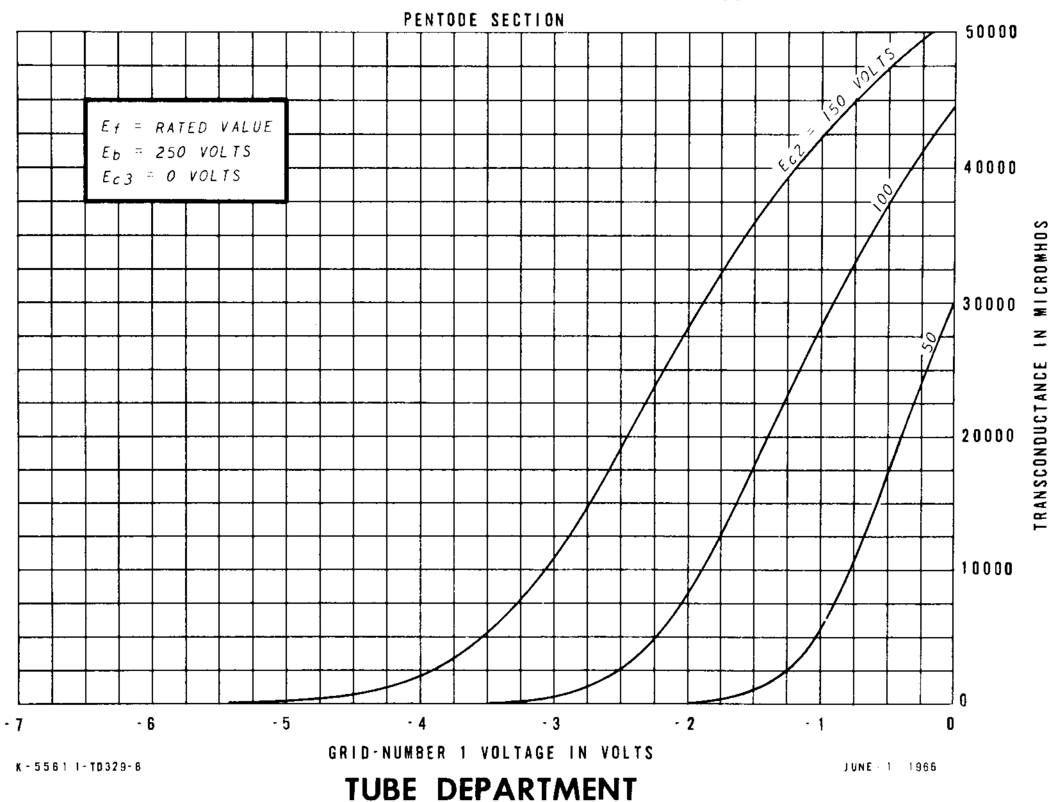
AVERAGE PLATE CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS




AVERAGE TRANSFER CHARACTERISTICS
PENTODE SECTION
Ef = RATED VALUE
Eb = 250 VOLTS
Ec3 = 0 VOLTS
Ec2 = 150 VOLTS
100
50
20
15
10
5
0
SCREEN CURRENT IN MILLIAMPERES
-7
-6
-5
-4
-3
-2
-1
0
GRID-NUMBER 1 VOLTAGE IN VOLTS
K-55611-TD329-7
JUNE 1, 1966


AVERAGE TRANSFER CHARACTERISTICS
PENTODE SECTION
Ef = RATED VALUE
Eb = 250 VOLTS
Ec3 = 0 VOLTS
Ec2 = 150 VOLTS
100
50
50000
40000
30000
20000
10000
0
TRANSCONDUCTANCE IN MICROMHOS
-7
-6
-5
-4
-3
-2
-1
0
GRID-NUMBER 1 VOLTAGE IN VOLTS
K-55611-TD329-8
JUNE 1, 1966